

4.5.1.3 Constructive Use

Implementation of the Proposed Action would not result in a constructive use of the recreation resources listed in Table 4-4, as demonstrated below.

Noise

Parks along the I-15 Corridor are not noise-sensitive facilities where quiet and serenity are significant attributes; however, they would qualify as Activity Category B resources under FHWA guidelines and the National Ambient Noise Criteria. Activity Category B includes areas such as picnic areas, recreation areas, playgrounds, active sports areas, parks, residences, motels, hotels, schools, churches, libraries, and hospitals. Noise from traffic on I-15 is an existing condition along the corridor and does not interfere with the use of the parks or the Provo River Parkway Trail. Recreation use along the Provo River Parkway Trail consists of activities that are transitory in nature (e.g., walking, bike riding, skating), and it is expected that an increase of the existing noise levels in this area would not substantially impair the recreation use or enjoyment of the Provo River Parkway Trail. The existing noise environment along the I-15 Corridor is described in Section 3.7 of this EIS. As described in Section 3.7, noise levels are predicted to increase to a level considered an impact, as established in the UDOT Noise Abatement Policy. Although this expected increase may be considered a noise impact, it would not be considered a constructive use (as defined in 23 CFR 774.15 of the recreation resources because these noise levels would not substantially interfere with the use and enjoyment of the parks or the Provo River Parkway Trail for their intended purposes. Noise impacts and proposed noise abatement also are addressed in Section 3.7. There would be no constructive use attributable to noise.

Aesthetics

I-15 is an existing element of the visual setting along the I-15 Corridor. Views in the direction of the highway could change as a result of the proposed widening and reconstruction of I-15, including the construction of noise barriers in areas where a noise impact has been identified and where noise barriers are feasible and prudent. However, in areas where noise barriers will not be constructed, the proposed project would have features similar to those that currently exist.

Parks immediately adjacent to I-15 or with a direct view of the highway include North Park in Spanish Fork, East Bay Golf Course in Provo, Nielsen's Grove in Orem, Orem City Skate Park, Greenwood Park and Bicentennial Park in American Fork, and North Entrance Park in Lehi. In addition, the Provo River Parkway Trail crosses underneath I-15 at approximately 400 North in Provo. These parks and the Provo River Parkway Trail are not areas where the value of the park or the Provo River Parkway Trail is substantially derived from the setting. The change in the visual setting from the widening and reconstruction of I-15 is not expected to detract from the use and enjoyment of these parks, the Provo River Parkway Trail, or recreation facilities for their intended purpose. Existing buildings and vegetation obstruct (partly or entirely) direct views toward I-15 for the remaining parks within one-quarter mile of the highway. Powerline Park #1 is immediately adjacent to I-15 on the west, and an existing noise barrier separates the park from I-15 in this area. The noise barrier would be replaced, and views in this area would be similar to existing conditions. There may be some minor visual impacts during construction of the new bridge for trail users on the Provo River Parkway Trail, immediately adjacent to the where the trail crosses underneath the I-15 Corridor. These impacts would be temporary in nature, and after reconstruction, the proposed project would have features similar to the existing conditions, which would not detract from the overall setting of the Provo River Parkway Trail. Given the considerations described above, there would be no constructive use attributable to visual impacts.

Vibration

Increased vibration levels would occur during the construction period; however, the vibration levels are not expected to be great enough to affect the structural integrity or diminish the utility of buildings or facilities located within the boundaries of the parks along the I-15 Corridor, including the Provo River Parkway Trail. I-15 widening and reconstruction would be performed in accordance with UDOT Standard Specification 01355, which addresses monitoring of vibration during construction. In the unlikely event that vibration during construction causes damage to buildings or facilities in the parks, the damage would be repaired and use of the resource would not be permanently or severely diminished. There would be no constructive use as a result of vibration.

Access

Access to recreation resources would not change or be restricted as a result of the implementation of the Proposed Action, and there would be no constructive use due to changes in access.

Ecological Intrusion

There would be no constructive use attributable to ecological intrusion as a result of the implementation of the Proposed Action. No wildlife or waterfowl refuges are located within one-quarter mile of I-15.

4.5.1.4 Section 6(f) Resources

As described in Section 4.5.1, Hillman Fields at 800 West 800 South in Payson and North Park at 507 East 1000 North in Spanish Fork are several hundred feet from the I-15 corridor. No property from these parks will be converted to a non-recreational use and therefore, no replacement lands are necessary. The segments of the Provo River Parkway Trail that are subject to Section 6(f) protection are not located near I-15 and there would be no right-of-way required for the Proposed Action. No further Section 6(f) analysis or correspondence is required for these resources.

4.5.2 *Historic Properties*

The Section 4(f) uses of archaeological and architectural resources are described in the following sections. The summaries provided below include results of all Utah SHPO consultation that has occurred during preparation of the FEIS.

Changes have been made to this Section 4(f) evaluation since the DEIS was published in November 2007. These changes were made for the following reasons:

- Potential changes to the North Payson interchange design may shift the location of the crossing of the Denver & Rio Grande Western Railroad in this location.
- The NRHP eligibility has changed for two properties in Orem, 1260 West 800 South (Building Reference #36) and 12 South 1160 West (Building Reference #39) from eligible to not eligible. Therefore, these two structures no longer qualify for protection under Section 4(f).
- Design elements of Provo/Orem Option D have changed from that presented in the DEIS. Re-alignment of Provo 820 North would change the finding for 702 North Geneva Road from no use to a *de minimis* use of 0.05 acres. The re-alignment also resulted in additional crossings of the Denver & Rio Grande Western Railroad, the Utah Southern Railroad/Union Pacific Railroad, and the Lake Bottom Canal. See Sections 4.5.2.1 and 4.5.2.2.
- Design elements at 1200 West in Lehi have been refined. These refinements have changed the use of an historic property. The direct use at 2200 North 1100 West (Building Reference #83) has changed from 2.43 acres to 2.8 acres.
- Additional consultation with Utah SHPO has occurred, as described in Sections 4.4.2 and 4.7.
- Since publication of the DEIS, Alternative 4 with Provo/Orem Option D and American Fork Option C has been identified as the Preferred Alternative.

4.5.2.1 Archaeological Resources

The Section 4(f) uses of the 12 archaeological resources that would result from the implementation of the Proposed Action are described in Table 4-5. Table 4-5 has been updated to reflect changes to the use of the archaeological resources since publication of the DEIS.

Table 4-5: Description of Section 4(f) Use to Archaeological Resources

Resource (Site #)	NHPA Section 106 Effect	Section 4(f) Use	Description of Section 4(f) Use
Denver & Rio Grande Western Railroad (42UT1101/42SL293)	No Adverse Effect	Direct Use, <i>de minimis</i>	I-15 crosses the rail line either at-grade or at grade-separated crossings. Widening I-15 would affect approximately 675 linear feet of the rail line. Implementation of Provo/Orem Options A, B, C, and D would affect approximately 1,175, 950, 1,050, and 1,141 linear foot, respectively. American Fork Main Street Options A, B, and C would affect approximately 90, 325, and 90 linear feet, respectively. Improving the existing crossings or construction of new crossings, at-grade or grade-separated, would not damage or alter the alignment or characteristics that contribute to the rail line's significance or eligibility for listing on the NRHP under criterion A.
South Field Canal (42UT935)	No Adverse Effect	Direct Use, <i>de minimis</i>	Widening I-15 would require an extension of the existing culvert, which would cover portions of the canal in the right-of-way. Extension of the existing culvert by 25 linear feet would not alter the character-defining features of the canal that contribute to its eligibility for listing on the NRHP under criteria A and C.
Mill Race Canal (42UT1485)	No Adverse Effect	Direct Use, <i>de minimis</i>	Widening I-15 would require an extension of the existing culverts at two locations, which would cover portions of each segment of canal in the right-of-way. The canal within the right-of-way in both locations is enclosed in culverts that would be widened by a total of 25 linear feet. Extension of these existing culverts would not alter the character-defining features of the canal that contribute to eligibility for listing on the NRHP under criterion A.
Utah Southern Railroad/Union Pacific Railroad (42UT1029/42SL344)	No Adverse Effect	Direct Use, <i>de minimis</i>	I-15 crosses the rail line either at-grade or at grade-separated crossings in five locations, and in seven locations auxiliary roads cross the rail line. Widening I-15 would affect approximately 2,225 linear feet of the rail line Based on construction of Provo/Orem Options A, B, C, and D, these crossings would affect 1,425, 1,150, 1,125, and 1,016 linear feet, respectively, of the rail line. Improving the existing crossings or constructing new crossings, at-grade or grade-separated, would not diminish the qualities that qualify the rail line for listing on the NRHP under criterion A. The primary contributing elements of the rail line as a whole would not be affected.
Provo Viaduct (UDOT Structure D-413)	Adverse Effect	Direct Use, not <i>de minimis</i>	The construction of Provo/Orem Options A, B, C, and D all would require demolition of the viaduct (1,442 feet long) to construct the Provo Center Street Interchange. The two-lane viaduct located on Center Street in Provo was previously determined eligible for listing on the NRHP under criteria A and C. In addition, the viaduct was deemed structurally deficient and functionally obsolete in a bridge survey conducted by UDOT.
Lake Bottom Canal (42UT1032)	No Adverse Effect	Direct Use, <i>de minimis</i>	The construction of Provo/Orem Options A, B, C, and D would require a direct use of approximately 1,550, 1,775, 1,000, and 516 linear feet, respectively, of the canal present in the right-of-way by widening existing culverts or by enclosing portions of the canal in the right-of-way. Widening the existing culverts or enclosing portions of the canal would not alter the character-defining features of the canal as a whole that contribute to its eligibility for listing on the NRHP under criterion A.

 Shaded row indicates an Adverse Effect and Section 4(f) Direct Use (not *de minimis*).

Table 4-5: Description of Section 4(f) Use to Archaeological Resources - continued

Resource (Site #)	NHPA Section 106 Effect	Section 4(f) Use	Description of Section 4(f) Use
West Union Canal (42UT1568)	No Adverse Effect	Direct Use, <i>de minimis</i>	Widening I-15 would require an extension of the existing culvert within the right-of-way by approximately 25 linear feet, which would cover a portion of the canal in the right-of-way, but would not alter the character-defining features of the canal that make it eligible for listing on the NRHP under criterion A.
Salt Lake and Western Railroad Grade (42UT948)	No Adverse Effect	Direct Use, <i>de minimis</i>	This approximately 150-foot segment of railroad grade is located within the existing I-15 right-of-way, although there is no evidence of the railroad grade west of I-15. The segment is highly degraded and lacks integrity of eligibility-defining characteristics, and it does not contribute to the overall eligibility of this historic property. However, a direct use of approximately 50 linear feet of this segment would be required to widen I-15 where it occurs within the right-of-way.
Murdock Canal (42UT947)	No Adverse Effect	Direct Use, <i>de minimis</i>	The segment of the canal in the right-of-way is contained within an existing culvert, and widening I-15 would require an extension of the culvert in the right-of-way. I-15 would be widened by 100 feet on the east side of I-15 in this area. There are no open segments of canal or any canal features associated with this segment. This segment of canal has lost all integrity of design, location, setting, materials, workmanship, feeling, and association. This segment does not contribute to the overall eligibility of the Murdock Canal for listing on the NRHP under criterion A.
Draper Irrigation Canal (42SL350)	No Adverse Effect	Direct Use, <i>de minimis</i>	This segment of canal is contained in an existing culvert; widening I-15 would require an extension of the culvert in the right-of-way by approximately 50 linear feet, but would not alter the character-defining features of the canal that make it eligible for listing on the NRHP under criterion A.
East Jordan Canal (42SL290)	No Adverse Effect	Direct Use, <i>de minimis</i>	Widening I-15 would require widening the existing concrete bridge by approximately 50 linear feet over the canal, but would not alter the character-defining features of the canal that contribute to its eligibility for listing on the NRHP under criterion A.
Jordan and Salt Lake City Canal (42SL214)	No Adverse Effect	Direct Use, <i>de minimis</i>	The segment of the canal recorded within the survey area does not cross I-15. The canal parallels I-15 and crosses under Bangerter Highway in a box culvert approximately 1,300 feet west of I-15. Improvements proposed for the Bangerter Highway Interchange include a detention basin south of the highway and 25 feet east of the canal. The detention basin would outlet to the canal and require modifications to the canal wall, but it would not alter character-defining features of the canal that contribute to its eligibility for listing on the NRHP under criterion A.

Source: Jones & Stokes 2007

Note: The terms *adverse effect* and *no adverse effect* are taken from NHPA Section 106 determinations; see Section 3.16 of this EIS.

Direct Use

As shown in Table 4-5, the implementation of the Proposed Action would require a direct use (not *de minimis*) of one archaeological resource, the Provo Viaduct located on Center Street. In addition, there would be a direct use (*de minimis*) of eleven archaeological resources that would result in a Section 106 determination of no adverse effect. UDOT and FHWA have determined that the use of these archaeological resources meets the criteria and requirements for a *de minimis* use finding, as specified in SAFETEA-LU Section 6009(a). FHWA has informed the Utah SHPO of FHWA's intent to make a *de minimis* impact finding based on the Utah SHPO's written concurrence in the NHPA Section 106 determination. FHWA has considered the views of any consulting parties participating in the Section 106 consultation before making a finding of *de minimis* use.

Temporary Occupancy

The implementation of the Proposed Action would not require a temporary occupancy of the 12 archaeological resources.

Constructive Use

The construction of the Proposed Action would require a direct use of 12 archaeological resources (11 *de minimis* and one not *de minimis*). Constructive use does not occur when the transportation project requires a direct use of a Section 4(f) resource (23 CFR 774.15). In addition, constructive use does not occur when the process required by NHPA Section 106 results in an agreement of either no effect or no adverse effect (23 CFR 774.15). Therefore, there would be no constructive use of these resources.

4.5.2.2 Architectural Resources (Historic Buildings)

The Section 4(f) uses of the architectural resources resulting from the implementation of the Proposed Action are described in Table 4-6 which includes a Building Reference number (shown on figures), address, and the NHPA and Section 4(f) uses. The table also includes description of the Section 4(f) use and which Provo/Orem options would use the resources, if any. In addition, the location of each architectural resource (historic building) is shown on the figures in Appendix C in relationship to the alternatives and Proposed Action. Table 4-6 has been updated to reflect changes to the use of the architectural resources since publication of the DEIS.

Table 4-6: Description of Section 4(f) Uses to Architectural Resources

Building Reference # (Figure # in Appendix C)	Address	NHPA Section 106 Effect	Section 4(f) Use	Description of Section 4(f) Use
2 (Figure C-1)	192 South 800 West, Payson	No Effect	No Use	No impact on building or parcel.
4 (Figure C-1)	750 West 100 South, Payson	No Effect	No Use	No impact on building or parcel.
8 (Figure C-1)	640 West Utah Avenue, Payson	No Effect	No Use	No impact on building or parcel.
12 (Figure C-2)	412 West 400 North, Payson	No Effect	No Use	No impact on building or parcel.
13 (Figure C-2)	625 North Main, Payson	No Effect	No Use	No impact on building or parcel.
15 (Figure C-3)	7658 South 1600 West, Spanish Fork	No Effect	No Use	No impact on building or parcel.

Source: Jones & Stokes 2007

Table 4-6: Description of Section 4(f) Uses to Architectural Resources - continued

Building Reference # (Figure # in Appendix C)	Address	NHPA Section 106 Effect	Section 4(f) Use	Description of Section 4(f) Use
16 (Figure C-3)	1378 West 7300 South, Spanish Fork	No Adverse Effect	Direct Use, <i>de minimis</i>	Implementation of the Proposed Action would require a direct use of 0.24 acres of the 3.1-acre parcel on which this building is located, but there would be no effect on the building.
17 (Figure C-3)	Approximately 572 West 6800 South, Spanish Fork	No Effect	No Use	No impact on building or parcel.
19 (Figure C-4)	1100 South 500 West, Provo	No Adverse Effect	Direct Use, <i>de minimis</i>	Implementation of the Proposed Action would require a direct use of 0.006 acres of this 0.3-acre parcel, but there would be no effect on the building.
20 (Figure C-4)	605 West 1020 South, Provo	No Effect	No Use	No impact on building or parcel.
21 (Figure C-4)	627 South 1100 West, Provo	No Effect	No Use	No impact on building or parcel.
22 (Figure C-4)	987 West 600 South, Provo	No Effect	No Use	No impact on building or parcel.
24 (Figure C-5)	1200 West Center, Provo	No Effect	No Use	No impact on building or parcel.
25 (Figure C-6)	702 North Geneva Road, Provo	No Adverse Effect, Provo/Orem Options A and B	Direct Use, <i>de minimis</i>	Implementation of Provo/Orem Options A and B would require a direct use of 0.23 acres of the 0.54-acre parcel on which this building is located, but there would be no effect on the building.
		No Effect, Provo/Orem Options C	No Use	No impact on building or parcel.
		No Adverse Effect, Provo/Orem Option D*	Direct Use, <i>de minimis</i>	Construction of the 820 North underpass in Provo - components of the revised Option D - would require a direct use of 0.05 acres of the 0.54-acre parcel, but there would be no effect on the building.
26 (Figure C-6)	722 North Geneva Road, Provo	No Effect	No Use	No impact on building or parcel.
27 (Figure C-6)	768 North Geneva Road, Provo	No Effect	No Use	No impact on building or parcel.
28 (Figure C-6)	856 North Geneva Road, Provo	No Adverse Effect	Direct Use, <i>de minimis</i>	Implementation of Provo/Orem Options A and B would require a direct use of 0.61 acres of this 3.1-acre parcel, but there would be no effect on the building. Implementation of Provo/Orem Options C and D would require 0.023 acres of the parcel.

*Provo/Orem Option D and American Fork Option C are elements of the Preferred Alternative.

Source: Jones & Stokes 2007

Note: The terms *adverse effect* and *no adverse effect* are taken from NHPA Section 106 determinations; see Section 3.16 of this FEIS.

Table 4-6: Description of Section 4(f) Uses to Architectural Resources - continued

Building Reference # (Figure # in Appendix C)	Address	NHPA Section 106 Effect	Section 4(f) Use	Description of Section 4(f) Use
30 (Figure C-7)	530 West 2000 South, Provo	No Adverse Effect, Provo/Orem Options A and B	Direct Use, <i>de minimis</i>	Implementation of Provo/Orem Options A and B would require a direct use of 0.67 acres of this 15.9-acre parcel, but there would be no effect on the building.
		No Effect, Provo/Orem Options C and D*	No Use	Implementation of Provo/Orem Options C and D would not require a direct use of this parcel, and there would be no Section 4(f) use.
31 (Figure C-8)	1271 West University Parkway, Orem	No Effect	No Use	No impact on building or parcel.
31.5 (Figure C-9)	895 South Geneva Road, Orem	No Effect	No Use	No impact on building or parcel.
32 (Figure C-9)	865 South Geneva Road, Orem	No Effect	No Use	No impact on building or parcel.
33 (Figure C-9)	853 (849) South Geneva Road, Orem	No Effect	No Use	No impact on building or parcel.
34 (Figure C-9)	1467 West 800 South, Orem	No Adverse Effect, Provo/Orem Options A and C	Direct Use, <i>de minimis</i>	Implementation of Provo/Orem Options A and C would require a direct use of 0.14 acres of the 1.04-acre parcel for construction at 800 South in Orem. There would be no effect on the building.
		No Effect, Provo/Orem Options B and D*	No Use	Implementation of Provo/Orem Options B and D would not require a direct use of this parcel or affect the building.
34.5 (Figure C-9)	1451 West 800 South, Orem	No Adverse Effect, Provo/Orem Options A and C	Direct Use, <i>de minimis</i>	Implementation of Provo/Orem Options A and C require a direct use of 0.23 acres from the 1.04-acre parcel for construction at 800 South in Orem. There would be no effect on the building.
		No Effect, Provo/Orem Options B and D*	No Use	Implementation of Provo/Orem Options B and D would not require a direct use of this parcel or affect the building.
43 (Figure C-10)	1545 West 800 North, Orem	No Effect	No Use	No impact on building or parcel.
46 (Figure C-11, C-12, & C-13)	485 South 100 East, American Fork	No Effect	No Use	No impact on building or parcel.

*Provo/Orem Option D and American Fork Option C are elements of the Preferred Alternative.

Source: Jones & Stokes 2007

Note: The terms *adverse effect* and *no adverse effect* are taken from NHPA Section 106 determinations; see Section 3.16 of this FEIS.

Table 4-6: Description of Section 4(f) Uses to Architectural Resources - continued

Building Reference # (Figure # in Appendix C)	Address	NHPA Section 106 Effect	Section 4(f) Use	Description of Section 4(f) Use
47 (Figure C-11, C-12, & C-13)	440 South 100 East, American Fork	No Effect	No Use	No impact on building or parcel.
48 (Figure C-11, C-12, & C-13)	345 South Center, American Fork	No Effect	No Use	No impact on building or parcel.
50 (Figure C-11, C-12, & C-13)	150 West 300 South, American Fork	Adverse Effect	Direct Use, not <i>de minimis</i>	Construction of American Fork Main Street Options A, B, or C* would require a direct use of the 0.34-acre parcel, and the building would be demolished.
51 (Figure C-11, C-12, & C-13)	262 South 100 West, American Fork	No Effect	No Use	No impact on building or parcel.
54 (Figure C-11, C-12, & C-13)	159 West 200 South, American Fork	No Effect	No Use	No impact on building or parcel.
55 (Figure C-11, C-12, & C-13)	187 West 200 South, American Fork	No Effect	No Use	No impact on building or parcel.
56 (Figure C-11, C-12, & C-13)	360 West 200 South, American Fork	Adverse effect	Direct Use, not <i>de minimis</i>	Construction of American Fork Main Street Options A, B, or C* would require a direct use of the 0.7-acre parcel, and the building would be demolished.
57 (Figure C-14, C-15, & C-16)	104 Roosevelt, American Fork	No Adverse Effect	No Use	A temporary occupancy would be required for a construction easement. Construction of American Fork Main Street Options A, B, or C would require a temporary occupancy of 0.04 acres of this 0.22-acre parcel for a construction easement. There would be no effect on the building, and the land would be restored to its original condition or better.
58 (Figure C-14, C-15, & C-16)	447 Harrison Avenue, American Fork	No Effect	No Use	No impact on building or parcel.

*Provo/Orem Option D and American Fork Option C are elements of the Preferred Alternative.

Source: Jones & Stokes 2007

Note: The terms *adverse effect* and *no adverse effect* are taken from NHPA Section 106 determinations; see Section 3.16 of this FEIS.

 Shaded rows indicate an Adverse Effect and Section 4(f) Direct Use (not *de minimis*).

Table 4-6: Description of Section 4(f) Uses to Architectural Resources - continued

Building Reference # (Figure # in Appendix C)	Address	NHPA Section 106 Effect	Section 4(f) Use	Description of Section 4(f) Use
62.5 ¹ (Figure C-17)	7122 (7110) West 7750 North, American Fork	No Adverse Effect	Direct Use, <i>de minimis</i>	Implementation of American Fork Main Street Option B would require a direct use of 1.58 acres of this 2.9-acre parcel, but there would be no effect on the building.
		No Effect	No Use	Implementation of American Fork Main Street Options A and C would not require a direct use of this parcel or affect the building.
63 (Figure C-17)	1028 West Main Street, American Fork	No Adverse Effect	Direct Use, <i>de minimis</i>	Implementation of American Fork Main Street Option A would require a direct use of 1.31 acres of this 18.7-acre parcel, but there would be no effect on the building. Options B and C would require a direct use of 1.16 acres, but there would be no effect on the building.
63.5 ¹ (Figure C-17)	35 North 1020 West, American Fork	No Adverse Effect	Direct Use, <i>de minimis</i>	Implementation of American Fork Main Street Option A would require a direct use of 0.02 acres of this 1.0-acre parcel, but there would be no effect on the building.
		No Effect	No Use	Implementation of American Fork Main Street Options B and C would not require a direct use of this parcel or affect the building.
63.7 ¹ (Figure C-17)	57 North 1020 West, American Fork	No Effect	No Use	No impact on building or parcel.
63.9 ¹ (Figure C-17)	8040 North Millpond Drive, Lehi	No Effect	No Use	No impact on building or parcel.
64 (Figure C-18, C-19, & C-20)	1220 East Main Street, Lehi	No Effect	No Use	No impact on building or parcel.
65 (Figure C-18, C-19, & C-20)	700 East Main Street, Lehi	No Effect	No Use	No impact on building or parcel.
66 (Figure C-18, C-19, & C-20)	250 North 950 East, Lehi	No Effect	No Use	No impact on building or parcel.
68 (Figure C-18, C-19, & C-20)	725 East 500 North, Lehi	No Effect	No Use	No impact on building or parcel.
70 (Figure C-21)	825 North 400 East, Lehi	No Effect	No Use	No impact on building or parcel.

Source: Jones & Stokes 2007

Note: The terms *adverse effect* and *no adverse effect* are taken from NHPA Section 106 determinations; see Section 3.16 of this FEIS.

¹ These properties and their Section 106 effect were included in the November 2007 addendum DOE/FOE as explained in Section 4.4.2.

Table 4-6: Description of Section 4(f) Uses to Architectural Resources - continued

Building Reference # (Figure # in Appendix C)	Address	NHPA Section 106 Effect	Section 4(f) Use	Description of Section 4(f) Use
74 (Figure C-22)	830 West State Street, Lehi	No Adverse Effect	Direct Use, <i>de minimis</i>	Implementation of the Proposed Action would require a direct use of 0.025 acres of this 0.30-acre parcel, but there would be no effect on the building. In addition, 0.078 acres would be required temporarily during construction. There would be no effect on the building, and the land would be restored to its original condition or better.
75 (Figure C-22)	850 West State Street, Lehi	No Adverse Effect	Direct Use, <i>de minimis</i>	Implementation of the Proposed Action would require a direct use of 0.028 acres of this 0.54-acre parcel, but there would be no effect on the building. In addition, 0.10 acre would be required temporarily during construction. There would be no effect on the building, and the land would be restored to its original condition or better.
77 (Figure C-22)	980 West State Street, Lehi	No Adverse Effect	Direct Use, <i>de minimis</i>	Implementation of the Proposed Action would require a direct use of 0.08 acres of this 2.3-acre parcel, but there would be no effect on the building. An additional 0.24 acres would be required on a temporary basis during construction. There would be no effect on the building, and the land would be restored to its original condition or better.
81 (Figure C-22)	1060 West State Street, Lehi	No Adverse Effect	Direct Use, <i>de minimis</i>	Implementation of the Proposed Action would require a direct use of 0.02 acres of this 0.23-acre parcel, but there would be no effect on the building.
82 (Figure C-22)	1070 West State Street, Lehi	No Adverse Effect	Direct Use, <i>de minimis</i>	Implementation of the Proposed Action would require a direct use of 0.02 acres of the 0.27-acre parcel, but there would be no effect on the building.
83 (Figure C-22)	2200 North 1100 West, Lehi	No Adverse Effect	Direct Use, <i>de minimis</i>	Implementation of the Proposed Action would require a direct use of 2.8 acres of this 18.9-acre parcel, but there would be no effect on the building.

Source: Jones & Stokes 2007

Note: The terms *adverse effect* and *no adverse effect* are taken from NHPA Section 106 determinations; see Section 3.16 of this FEIS.

Table 4-6: Description of Section 4(f) Uses to Architectural Resources - continued

Building Reference # (Figure # in Appendix C)	Address	NHPA Section 106 Effect	Section 4(f) Use	Description of Section 4(f) Use
84 (Figure C-23)	2760 North Frontage Road, Lehi	No Effect	No use	No impact on building or parcel.
85 (Figure C-23)	4175 Thanksgiving Way, Lehi	No Adverse Effect	Direct Use, <i>de minimis</i>	Implementation of the Proposed Action would require direct use of 0.7 acres of this 5.2-acre parcel, but there would be no effect on the building.
86 (Figure C-23)	4275 Thanksgiving Way, Lehi	No Adverse Effect	Direct Use, <i>de minimis</i>	Implementation of the Proposed Action would require direct use of 0.15 acres of this 1.7-acre parcel, but there would be no effect on the building.

*Provo/Orem Option D and American Fork Option C are elements of the Preferred Alternative.

Source: Jones & Stokes 2007

Note: The terms *adverse effect* and *no adverse effect* are taken from NHPA Section 106 determinations; see Section 3.16 of this FEIS.

Direct Use

Construction of American Fork Main Street Options A, B, or C would require a direct use (not *de minimis*) of two buildings in American Fork: 150 West 300 South (Building Reference #50) and 360 West 200 South (Building Reference #56). These buildings are shown in Figures C-11, C-12, and C-13 in Appendix C. The two buildings would be demolished and the Section 4(f) use of these historic resources would result in an NHPA Section 106 determination of Adverse Effect.

Implementation of the Proposed Action would require a direct use (*de minimis*) of the following number of parcels on which architectural resources are located:

- Alternative 4 common areas (Preferred Alternative): 10
- Provo/Orem Option A: 5
- Provo/Orem Option B: 3
- Provo/Orem Option C: 3
- Provo/Orem Option D (Preferred Alternative): 2
- American Fork Main Street Options A and B: 2
- American Fork Main Street Option C (Preferred Alternative): 1

There would not be an effect on the buildings, and the direct use (*de minimis*) of these parcels would result in the NHPA Section 106 determination of no adverse effect. UDOT and FHWA have determined that the use of these historic Section 4(f) resources meets the impact criteria and requirements for a *de minimis* impact finding, as

specified in SAFETEA-LU Section 6009(a). FHWA has informed the Utah SHPO of FHWA's intent to make a *de minimis* impact finding based on the Utah SHPO's written concurrence in the NHPA Section 106 determination. FHWA will also consider the views of any consulting parties participating in the Section 106 consultation before making a finding of *de minimis* use.

Temporary Occupancy

There are four properties for which temporary occupancy would occur. These properties (including the affected acreages) are identified in Table 4-6 above and listed below:

- 104 Roosevelt, American Fork (Building Reference #57);
- 830 West State Street, Lehi (Building Reference #74);
- 850 West State Street, Lehi (Building Reference #75); and
- 980 West State Street, Lehi (Building Reference #77).

For each of these properties, a temporary construction easement would be required during widening and reconstruction of I-15. The easement would be required for a period of time less than the time required for construction of the proposed project and would not require a change in ownership of the land. The temporary easement would be for construction access or staging only, and no structures or other facilities are planned to be located on this land. After construction has been completed, the land would be restored to its original condition or better. No adverse effects on the land are anticipated; this temporary occupancy would meet all of the criteria outlined in 23 CFR 774.13.

Constructive Use

By definition, constructive use of historic Section 4(f) resources does not occur if 1) there is a direct use of that resource, or 2) there is an NHPA Section 106 finding of no adverse effect. As indicated in Table 4-6, all of the historic Section 4(f) resources have either a direct use, or finding of no adverse effect. Therefore, there are no constructive uses of historic Section 4(f) resources.

4.5.3 Summary of Use of Section 4(f) Resources

Table 4-7 summarizes use of the Section 4(f) resources by the Proposed Action with Provo/Orem Options A, B, C, and D, and with American Fork Main Street Options A, B, and C. As discussed in Section 4.5.1, the widening and reconstruction of I-15 would not require a Section 4(f) use of the 23 recreation resources located within one-quarter mile of the I-15 Corridor. There would be no constructive uses of these Section 4(f) resources attributable to implementation of the Proposed Action. There would be three direct uses of Section 4(f) properties that are not *de minimis*. Two structures in American Fork would be demolished due to the widening of the I-15 mainline, and the Provo Viaduct would be demolished during reconstruction of the Center Street Interchange in Provo. Table 4-7 has been updated to reflect changes to the use of the Section 4(f) historic resources since publication of the DEIS.

Table 4-7: Summary of Use of Section 4(f) Resources

Section 4(f) Type of Use	Proposed Action							
	Common Areas*	Provo/Orem Option				American Fork Main Street Option		
		A	B	C	D*	A	B	C*
Direct use, <i>de minimis</i>	20	6	4	4	3	2	2	1
Direct use (not <i>de minimis</i>)	0	1	1	1	1	2	2	2

*Elements of the Preferred Alternative

Notes: The Proposed Action (Alternative 4) Mainline, Provo Orem Options A, B, C, and D, and American Fork Main Street Options A, B, and C all require a direct use (*de minimis*) of the Denver & Rio Grande Western Railroad. However, this direct use (*de minimis*) was counted only once under the Proposed Action (Alternative 4) Mainline.

Similarly, the Proposed Action (Alternative 4) Mainline and Provo Orem Options A, B, C, and D all require a direct use (*de minimis*) of the Utah Southern Railroad/Union Pacific Railroad, and the direct use (*de minimis*) was counted once under the Proposed Action (Alternative 4) Mainline.

4.6 Avoidance Alternatives and Minimization Measures for Section 4(f) Resources

This section discusses FHWA's evaluation to determine whether there are feasible and prudent alternatives to avoid the use of Section 4(f) resources. An avoidance analysis is not required when a finding of *de minimis* use is made for Section 4(f) resources, because Section 4(f) is satisfied completely once *de minimis* applies.

4.6.1 Alternatives that Avoid all Section 4(f) Resources

A total avoidance alternative is a feasible and prudent alternative that would avoid all Section 4(f) resources. Alternatives that do not meet purpose and need are not considered feasible and prudent. As described in this chapter, rebuilding I-15 through the 43-mile project area (Alternative 4) would result in the direct use (not *de minimis*) of only three Section 4(f) resources, after the application of all possible planning, avoidance, and minimization to the proposed improvements.

During the alternative formulation and screening process, multiple locational alternatives (e.g., west side Utah Lake highway, east bench highway, arterial improvement) and multimodal alternatives (e.g., combined CR T, Light Rail Transit, Bus Rapid Transit) were considered to determine if the primary purpose and need of avoiding unacceptable congestion on the I-15 corridor could be achieved without rebuilding the mainline I-15 and its interchanges. As described in Chapters 1 and 2, no such alternative could be identified. In effect, this means that any alternative capable of meeting the project purpose and need must include, at a minimum, the I-15 rebuild and its attendant Section 4(f) uses, and that no locational avoidance alternatives exist.

It should also be noted that it would be virtually impossible for any major north-south transportation improvement in the corridor to avoid all Section 4(f) resources. There are numerous linear Section 4(f) resources, both east-west and north-south, throughout the study area that would be impacted by any new or improved transportation facilities. These include the Jordan River Parkway Trail, the Provo River Parkway Trail, and several historic canals and railroads. In addition, historic properties and districts are scattered along the existing north-south and east-west roadways. These Section 4(f) resources are documented in other environmental studies including the Mountain View Corridor, UTA's Provo to Salt Lake City FrontRunner Commuter Rail, Provo Airport Connector Road, SR-68 Improvements between Saratoga Springs and Bangerter Highway (Redwood Road), State Street in Lindon and American Fork (SR-89) Improvements, Lehi East-West Connector Study, Vineyard Connector Study, SR-92 between I-15 and American Fork Canyon, 800 North in Orem between Geneva Road and Provo Canyon, Geneva Road Improvements, SR-77 in Springville between I-15 and State Street.

4.6.2 Avoidance Alternatives and Measures to Minimize Harm for the Direct Use (not *de minimis*) Section 4(f) Resources

This section discusses FHWA's evaluation of avoidance alternatives and measures to minimize harm to Section 4(f) resources used by the Proposed Action. Avoidance alternatives and minimization measures are not required when a finding of *de minimis* use is made for Section 4(f) historic resources because Section 4(f) is satisfied once *de minimis* applies.

As described in this chapter, after the application of all possible planning to avoid and minimize Section 4(f) use, the Proposed Action would result in the use of only three Section 4(f) resources throughout the 43-mile corridor. Implementation of the Proposed Action would require a use of the following Section 4(f) resources:

- Provo Viaduct;
- 150 West 300 South, American Fork (Building Reference #50); and
- 360 West 200 South, American Fork (Building Reference #56).

Avoidance alternatives and minimization measures were considered for each of these Section 4(f) resources and are described below. The measures to minimize harm are in addition to the measures included in the Memorandum of Agreement (MOA) to mitigate adverse effects to eligible resources (See Appendix A). The MOA is outlined in section 4.6.4.

4.6.2.1 Provo Viaduct

The historic Provo Viaduct is part of the existing Provo Center Street interchange. It is a 1,442-foot-long structure that carries Provo Center Street over the rail corridor located just east of I-15, and provides access from Center Street to I-15 southbound (see Figure 4-5). Under the Proposed Action, reconstruction of the Provo Center Street Interchange would require demolition of the Provo Viaduct.

The existing viaduct is a two-lane roadway with no shoulders. Traffic models indicate that a minimum of five lanes is needed at this interchange and along Provo Center Street. The existing structure would not accommodate the required number or configuration of lanes. In addition, the location of the Provo Viaduct is incompatible with either a diamond or SPUI Interchange on I-15 at this location, requiring that it be demolished.

To assess whether the viaduct might be avoided and left in-place, shifting of the proposed locations of the reconstructed Provo Center Street interchange to the north and to the south of the Provo Viaduct was considered (see Figure 4-5). However, neither of these alternatives is a prudent and feasible avoidance or minimization alternative as outlined below:

- **North shift:** The only potentially feasible location of the new interchange to the north of its proposed location would require the use of 10 historic properties that qualify for Section 4(f) protection. These 10 properties are among the 22 relocations (12 residential units and 10 businesses) that would be required under this alternative. The Proposed Action at Provo Center Street would require only two business relocations and one direct use (not *de minimis*) of a Section 4(f) resource (Provo Viaduct). Because this alternative would actually impact more Section 4(f) resources, and require numerous additional relocations over the Proposed Action, it is not a feasible and prudent avoidance or minimization alternative.
- **South Shift:** The only potentially feasible location of the new interchange to the south of its proposed location would require the use of six historic properties that qualify for Section 4(f) protection. These six properties are among the 11 relocations (four residential units and seven businesses) that would be required under this alternative. The Proposed Action at Provo Center Street would require only two business relocations and one direct use (not *de minimis*) of a Section 4(f) resource (Provo Viaduct). Because this alternative would actually impact more Section 4(f) resources, and require numerous additional relocations, it is not a feasible and prudent avoidance or minimization alternative.